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Use Of The Novel Sideguard Dedicated Bifurcation Stent; A Real World Experience

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Background: PCI treatment of bifurcation disease is technically challenging and associated with both lower procedural success and higher MACE rates than observed in non-bifurcation lesions. The optimal treatment strategy for bifurcation lesions remains unclear and dedicated bifurcation stents have been developed to address some of the challenges associated with bifurcation lesions. The Sideguard stent is a novel nitinol self-expanding dedicated bifurcation stent that flares proximally at the ostium of the side branch (SB) thereby achieving full ostial coverage. The aim of this study is to report clinical utility and outcomes of the Sideguard stent in patients undergoing treatment to bifurcation coronary lesions in a real world setting in a large tertiary UK centre.
Methods: Data was prospectively collected from over a 1-year period from March 2010-2011.
Results: Over a 1 year period, 1630 PCI procedures involving 1954 lesion were performed in our centre of which 315 were bifurcation lesions (16.1%); 246 were treated with single stent strategy (78.1%) whilst 69 were treated with 2 stent strategy (21.9%). 40 lesions were treated with the Sideguard dedicated side branch stent in 38 patients. The mean age of the patients was 58.2±12.0 years old (mean±SD) and 35/40 lesions were true bifurcation lesions (87.5%). The sideguard stent was successfully used in all 38 cases including several that would have been technically difficult using conventional bifurcation techniques. There were no peri-procedural complications and MACE event rates were 5.3% at 1 year (TVR at 3 months in 1 patient and MI at 7 months in a second patient).
Conclusion: In one of the largest clinical experiences to date, the Sideguard stent can be used to treat complex bifurcation lesions in a straight forward manner, with excellent short and long term clinical outcomes and is not subject to the limitations associated with conventional bifurcation PCI techniques such as maintenance of access to the SB, having a guidewire secured in the main vessel throughout the procedure and ability to fully cover the ostium of the SB.

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Impact of Acute Coronary Syndrome on Clinical Outcomes in Patients with Coronary Bifurcation Lesions Treated with Drug-Eluting Stents

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Background: No prior study has addressed the impact of clinical presentations on outcomes in patients with coronary bifurcation lesions. Therefore, we examined the independent prognostic value of acute coronary syndrome (ACS) in patients with coronary bifurcation lesions treated with drug-eluting stents (DES).
Methods: We enrolled 1,668 patients, using data from "The COBIS (Coronary Bifurcation Stenting) registry". The primary objective was to compare the 2-year cumulative risk of major adverse cardiac events (MACE) in patients with ACS to those with stable angina.
Results: Nine hundred sixty nine patients presented with ACS and 699 patients presented with stable angina. Baseline clinical, angiographic and procedural characteristics of the 2 groups are listed in Table. Two-year MACEs were 7.3% in patients with ACS and 5.2% in stable angina patients (p=0.042), mainly driven by higher TLR rate. However, cardiac death, MI, TLR, and stent thrombosis (ST) were 1.1%, 1.4%, 5.5%, and 0.6% in patients with ACS, respectively, and 0.6%, 1.0%, 3.9%, and 0.7% in patients with stable angina (for cardiac death, p=0.21; for MI, p=0.36; for TLR, p=0.08; for ST, p=0.87). ACS had a borderline statistical significance (adjusted HR 1.49, 95% CI 0.99-2.25, p=0.06) in predicting MACEs. In the ACS patients cohort, baseline lesion length in side branch (adjusted HR 1.04, 95% CI 1.01-1.07, p=0.022), paclitaxel-eluting stents in main vessel (adjusted HR 2.02, 95% CI 1.21-3.40, p=0.008), and final kissing balloon dilatation (adjusted HR 1.88, 95% CI 1.10-3.21, p=0.021) were independent predictors of MACEs.

Clinical, angiographic, and procedural characteristics

	ACS (n = 969)	Stable angina (n = 699)	P value
LVEF (%)	58 ± 12	61 ± 10	<0.001
True bifurcation	696 (71.8)	467 (66.9)	0.031
Baseline MLD (mm) Main vessel, distal Side branch	 1.51 ± 0.69 1.50 ± 0.57	 1.66 ± 0.73 1.59 ± 0.55	 <0.001 0.003
Final kissing balloon dilatation	340 (35.1)	310 (44.3)	<0.001

Conclusion: Patients with bifurcation lesions and ACS treated with DESs have a tendency to increase the risk of MACEs during the 2-year follow-up after intervention compared to stable angina patients.

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Left Main Bifurcation Stenting: Long Term Followup of Simultaneous Kissing Stents in 140 Consecutive, Unselected Patients

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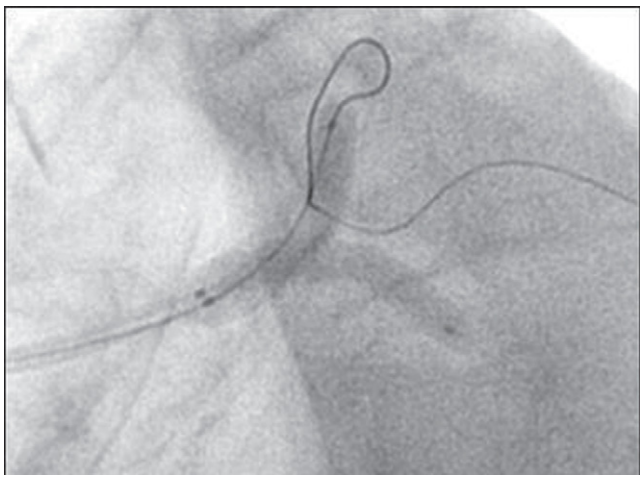
Background: Stenting the left main stem (LMS) is accepted. Most lesions involve the bifurcation. Whilst a single stent strategy is established generally, this is not the case at the LMS bifurcation. We present the results of simultaneous kissing stenting (SKS) for this indication.
Methods: A single operator registry. We treated consecutive, unselected patients with bifurcation LMS disease ± multi-vessel disease with SKS and maximal revascularisation, from 2004, using drug-eluting stents (DES) and recorded clinical status at baseline, 30d, and 1 and 2 years
Results: 140 patients completed 1 year follow-up. Mean age was 67 years, 75% were male, 35% were non-elective, the New York Risk Score estimation of in-hospital mortality was median 0.6% (range 0.1-64) and EuroSCORE 2.6 (0.9-67). SKS were deployed successfully in 100% cases and DES in 94.3%. 2.0±0.9 other vessels were diseased and 1.9±0.8 treated. The 30d mortality was 6% [NY Risk 21(0.6-64)] and all deaths were in the acute coronary syndromes. The mortality rate at 1 year was 11% (2% elective), and at 2 years 13%. 8/10 out-of-hospital deaths were attributable to probable (1) or possible (7) stent thrombosis and 7 were not surgical candidates. Ischemia-driven TVR was 4% at 1 year, and 6% at 2 years. There was 1 stroke, 1 STEMI and no emergency CABG at 2y



SKS of 1,1,1 LMS bifurcation stenosis

Conclusion: This is the largest registry of patients treated for LMS bifurcation disease with SKS in the world. This technique is simple, feasible and practical, including patients in extremis or unsuitable for CABG. Long-term results are excellent, and dependent upon clinical status

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Outcomes Following Unprotected Left Main Stenting with Everolimus-Eluting Stents: the Milan Experience

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Background: Second-generation drug-eluting stents for the treatment of coronary artery disease (CAD) are believed not only to be more effective but also safer. Our aim was to assess the clinical outcomes after everolimus-eluting stent (EES) implantation in patients undergoing percutaneous coronary intervention for unprotected left main CAD.
Methods: All consecutive patients from our single-center prospective registry treated for unprotected critical left main stem stenosis with EES implantation from October 2006 to June 2010 were analyzed. The study endpoints were all-cause mortality, myocardial infarction (MI), major adverse cardiac event (MACE), target vessel revascularization (TVR), target lesion failure (TLF) and target lesion revascularization (TLR).
Results: A total of 62 patients were included: the mean age was 67.9 ± 11.4 years and 75.8% were male. The median clinical follow-up was 723.5 days (interquartile range 265.8–1073.0 days). 53.2% underwent PCI with Xience V/Xience Prime (Abbott Vascular, Redwood City, California, USA) and 46.8% with Promus/Promus Element™ (Boston Scientific, Natick, MA, USA). 43.5% of patients had left main stenosis associated with triple vessel coronary artery disease and the mean left ventricular ejection fraction was 55.8 ± 8.1%. Regarding the procedure, 21.0% had an intra-aortic balloon pump inserted prior to intervention and intravascular ultrasound guidance was

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